

**OPTICAL COMMUNICATION APPARATUS AND METHODS USING
LIGHT PULSES HAVING MODIFIED PROPAGATION SPEEDS**

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Abstract of the Disclosure

An improved apparatus and method for enhancing the performance of optical
10 transmission and network systems (such as SONET or SDH). A magnetically trapped
atomic cloud chamber is provided which selectively alters the group velocity of light
waves propagating through the atomic cloud. A delay device, repeater, pulse shaper, and
millimeter wave transmission system incorporating the chamber are also disclosed.

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